IN THE CLAIMS

The following is a complete listing of the claims, and replaces all earlier versions and listings.

1. (currently amended) A control system for a double-fed induction generator (DFIG) comprising a rotor (1) having rotor windings and a stator (2) having stator windings connectable to a grid for electric power distribution;

said control system comprising a converter (170, 171), said converter comprising the following components:

a rotor-inverter (71-73) connectable to the rotor windings of the generator,

a grid-inverter (74-76) connectable to the grid and/or to the stator windings, and

a DC-link (77) for feeding the rotor-inverter;

the converter (170, 171) further comprising a clamping unit (190) for protecting the converter from damage due to over-currents in the rotor windings, said clamping unit (190) being connectable over the rotor windings and arranged to be triggered from a non-operating state to an operating state following detection of an over-current in the rotor-windings, said clamping unit comprising a clamping element (290) arranged so that

when the clamping unit is in its non-operating state, currents in the rotor windings cannot pass through said clamping element, and

when the clamping unit is in its operating state, currents in the rotor windings can pass through said clamping element,

the clamping unit further comprising for each phase of the rotor, a connector (300) for connection to the respective rotor phase, each connector being connected to a trigger branch

comprising, in series: a point of connection (297) of the clamping unit, to the connector (300) for connection to the respective rotor phase; a thyristor (295) for triggering the clamping unit; the clamping element (290); a diode (296); and the point of connection (297) to the connector (300) for connection to the respective rotor phase,

said clamping element comprising at least one passive voltage-dependent resistor element (291, 292, 293, 294) for providing a clamping voltage over the rotor windings.

2. (previously presented) A control system according to claim 1, wherein the clamping element (290) comprises a plurality of passive voltage-dependent resistor elements (291, 292, 293, 294), arranged in parallel with at least one varistor, one zener diode or one suppression diode.

3. - 6. (canceled)

7. (previously presented) A control system according to claim 1, wherein the clamping unit further comprises a resistor (298) coupled in parallel with the clamping element (290).

8. (previously presented) A control system according to claim 1, wherein the clamping unit is arranged to be triggered from the non-operating state to the operating state when the voltage over the DC-link or the rotor windings rises above a pre-determined level, or when the current in the rotor-windings or the stator-windings rise a pre-determined level.

9. - 11. (canceled)

12. (previously presented) A double-fed induction generator (DFIG) system comprising a rotor (1) having rotor windings and a stator (2) having stator windings connectable to a grid for electric power distribution, said double-fed induction generator system further comprising a control system according to claim 1, wherein the

rotor inverter (71-73) is connected to the rotor windings of the generator,

the grid inverter (74-76) is connected to the grid, and

the clamping unit (190) is connected over the rotor windings.

13. (original) A method for protecting the converter in a power generation system comprising a double-fed induction generator (DFIG) comprising a rotor (1) having rotor windings, a stator (2) having stator windings connected to a grid for electric power distribution and a control system comprising a converter (170, 171), said converter comprising a rotor-inverter (71-73) connected to the rotor windings of the generator, a grid-inverter (74-76) connected to the grid and/or to the stator windings, and a DC-link (77) for feeding the rotor-inverter;

whereby the method comprises the steps of:

connecting a clamping unit (190) having a clamping element over the rotor windings, said clamping unit comprising a clamping element (290) arranged so that when the clamping unit is in a non-operating state, currents in the rotor windings cannot pass through said clamping element, and when the clamping unit is in an operating state, currents in the rotor windings can pass through said clamping element, said clamping element comprising at least one passive voltage-dependent resistor element (291, 292, 293, 294) for providing a clamping voltage over the rotor windings; and

triggering the clamping unit from its non-operating state to its operating state when an over-current is detected in the rotor windings.

14. (original) A method according to claim 13, wherein the clamping unit is triggered from the non-operating state to the operating state when the voltage over the DC-link rises above a pre-determined level.

15. (original) A method according to claim 13, wherein the clamping unit is triggered from the non-operating state to the operating state when the voltage over the rotor-windings rises above a pre-determined level.

16. (original) A method according to claim 13, wherein the clamping unit is triggered from the non-operating state to the operating state when the currents in the rotor-windings rise above a pre-determined level.

17. (original) A method according to claim 13, wherein the clamping unit is triggered from the non-operating state to the operating state when the currents in the stator-windings rise above a pre-determined level.

18. (previously presented) A control system according to claim 2, wherein the clamping unit comprises, for each phase of the rotor, a connector (300) for connection to the respective rotor phase, each connector being connected to a trigger branch comprising, in series: a point of connection (297) of the clamping unit, to the connector (300) for connection to the

respective rotor phase; a thyristor (295) for triggering the clamping unit; the clamping element (290); a diode (296); and the point of connection (297) to the connector (300) for connection to the respective rotor phase.

19. (previously presented) A control system according to claim 2, wherein the clamping unit further comprises a resistor (298) coupled in parallel with the clamping element (290).

20. (previously presented) A control system according to claim 18, wherein the clamping unit further comprises a resistor (298) coupled in parallel with the clamping element (290).

21. (previously presented) A control system according to claim 2, wherein the clamping unit is arranged to be triggered from the non-operating state to the operating state when the voltage over the DC-link or the rotor windings rises above a pre-determined level, or when the current in the rotor-windings or the stator-windings rise a pre-determined level.

22. (previously presented) A control system according to claim 18, wherein the clamping unit is arranged to be triggered from the non-operating state to the operating state when the voltage over the DC-link or the rotor windings rises above a pre-determined level, or when the current in the rotor-windings or the stator-windings rise a pre-determined level.

23. (previously presented) A control system according to claim 19, wherein the clamping unit is arranged to be triggered from the non-operating state to the operating state when the voltage over the DC-link or the rotor windings rises above a pre-determined level, or when

the current in the rotor-windings or the stator-windings rise a pre-determined level.

24. (previously presented) A control system according to claim 20, wherein the clamping unit is arranged to be triggered from the non-operating state to the operating state when the voltage over the DC-link or the rotor windings rises above a pre-determined level, or when the current in the rotor-windings or the stator-windings rise a pre-determined level.

25. (previously presented) A double-fed induction generator (DFIG) system comprising a rotor (1) having rotor windings and a stator (2) having stator windings connectable to a grid for electric power distribution, said double-fed induction generator system further comprising a control system according to claim 2, wherein the

rotor inverter (71-73) is connected to the rotor windings of the generator,

the grid inverter (74-76) is connected to the grid, and

the clamping unit (190) is connected over the rotor windings.

26. (previously presented) A double-fed induction generator (DFIG) system comprising a rotor (1) having rotor windings and a stator (2) having stator windings connectable to a grid for electric power distribution, said double-fed induction generator system further comprising a control system according to claim 23, wherein the

rotor inverter (71-73) is connected to the rotor windings of the generator,

the grid inverter (74-76) is connected to the grid, and

the clamping unit (190) is connected over the rotor windings.